

WHAT IS CLAIMED IS:

1. A respiratory mask comprising:

a mask frame including a forehead support member and a plurality of strap attachment portions, integral to at least one of the mask frame and the forehead support member, for attaching straps to the respiratory mask to mount the respiratory mask on a facial region of a user;

a forehead pad attached to the forehead support member, wherein an angle of the mask frame relative to the facial region of the user is adjusted by rotating the forehead pad.

2. The respiratory mask of claim 1 wherein the forehead pad has a bore, the forehead support member of the mask frame being inserted into the bore.

3. The respiratory mask of claim 2 wherein the bore is an off-center square bore having four inward facing surfaces and the forehead support member has a rectangular cross-section having four outward facing surfaces, wherein each parallel pair of inward facing surfaces is parallel to a pair of outward facing surfaces, and whereby the forehead pad can be fit to the forehead support member in four distinct positions, each position providing a distinct distance different from the others of an outward facing surface of the forehead pad contacting the facial region from an inward facing surface of the forehead pad contacting the forehead support member.

4. The respiratory mask of claim 2 wherein the bore has a plurality of inward facing surfaces and the forehead support member has a cross-section with a corresponding number of outward facing surfaces, wherein each inward facing surface is parallel to an outward facing surface, whereby the forehead pad can be fit to the forehead support member in a corresponding number of distinct positions, each position providing a distinct and different distance of an outward facing surface of the forehead pad contacting the facial region from an inward facing surface of the forehead pad contacting the forehead support member.

5. The respiratory mask of claim 2 wherein the bore is circular and an outer surface of the forehead pad is a single continuous surface, which is not a concentric circle of the bore, whereby the distance of a location on the outer surface of the forehead pad contacting the facial region from an inward facing surface of the forehead pad contacting the forehead support member is continuously variable by rotating the forehead pad.

6. The respiratory mask of claim 2 wherein an inward facing surface of the bore and the forehead support member are constructed and arranged to allow manual rotation of the forehead pad and resist accidental rotation of the forehead pad.

7. The respiratory mask of claim 2 wherein the forehead support member and the forehead pad have cooperative interlocking structure to resist the forehead support member coming out of the bore.

8. The respiratory mask of claim 1 further comprising a substantially ring-shaped mask frame mask cushion interposed between the mask frame and the facial region of the user, the mask frame mask cushion comprising a single, continuous, accordion-shaped wall with at least two hinge portions.

9. The respiratory mask of claim 8 wherein the mask frame mask cushion is integrally formed with the mask frame.

10. The respiratory mask of claim 9 wherein the mask frame and the mask frame mask cushion are molded as a single piece.

11. The respiratory mask of claim 9 wherein the mask frame mask cushion is molded over the mask frame.

12. The respiratory mask of claim 11 wherein a plurality of channels in the mask frame allow a cushion molding material, which forms the mask frame mask cushion, to bleed through the mask frame during a molding process.

13. A respiratory mask comprising:

a mask frame having a forehead support member and a plurality of strap attachment portions, integral to at least one of the mask frame and the forehead support member, for attaching straps to the respiratory mask to mount the respiratory mask on a facial region of a user; and

a flexible beam between the mask frame and the forehead support member, whereby an angle of the mask frame relative to a facial region of the user is adjusted by bending the flexible beam.

14. The respiratory mask of claim 13 further comprising a substantially ring-shaped mask frame mask cushion interposed between the mask frame and the facial region of the user,

the mask frame mask cushion comprising a single, continuous, accordion-shaped wall with at least two hinge portions.

15. The respiratory mask of claim 14 wherein the mask frame mask cushion is integrally formed with the mask frame.

16. The respiratory mask of claim 15 wherein the mask frame and the mask frame mask cushion are molded as a single piece.

17. The respiratory mask of claim 15 wherein the mask frame mask cushion is molded over the mask frame.

18. The respiratory mask of claim 17 wherein a plurality of channels in the mask frame allow a cushion molding material, which forms the mask frame mask cushion, to bleed through the mask frame during a molding process.

19. A method of manufacturing a respiratory mask comprising;
molding integrally a mask frame, a mask cushion, a forehead support member, a hinge connecting the mask frame to the cushioning seal, a hinge connecting the mask cushion to the forehead support member, and a cooperative interlocking structure on the mask frame and the mask cushion;

folding the mask frame relative to the mask cushion;

interlocking the cooperative interlocking structure whereby the mask frame is locked in a position relative to the mask cushion;

folding the forehead support member relative to the mask cushion, whereby the mask frame is interposed between the forehead support member and the mask cushion; and

attaching straps to the mask frame and the forehead support member to mount the mask on a facial region of a user.

20. The method of claim 19 further comprising molding a forehead pad integral to the forehead support member, during the first molding step.

21. The method of claim 20 further comprising:
molding a folding angular orientation beam integral to the forehead support member, during the first molding step; and

bending the angular orientation beam, after the forehead support member is folded relative to the mask cushion, whereby the angle of the forehead support member relative to the interlocked mask frame and mask cushion is adjusted by altering the angle of the angular orientation beam.

22. The method of claim 21 further comprising:

molding a first integral hinge between the forehead support member and a first end of the folding angular orientation beam during the first molding step;

molding a second integral hinge approximately at the midpoint of the folding angular orientation beam during the first molding step;

molding a third integral hinge on a second end of the folding angular orientation beam during the first molding step;

molding a clip to the third integral hinge, during the first molding step, whereby the third integral hinge is molded between the clip and the second end of the folding angular orientation beam;

bending the first integral hinge, after folding the forehead support member relative to the mask cushion, to fold the second end of the folding angular orientation beam toward the mask frame;

bending the second integral hinge to fold the second end of the folding angular orientation beam toward the forehead support member;

bending the third integral hinge to align the clip with the forehead support member; and

attaching the clip to the forehead support member, thereby forming a triangle with the three hinges as the corners interposed between the forehead support member and the mask frame, whereby the height of the triangle clip, and the angle of the forehead support member relative to the mask frame, may be adjusted by raising or lowering the clip relative to the forehead support member.